# A methodology for preservation of traditional Sri Lankan mural paintings

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This research investigated the possibility of developing an efficient method of preservation of traditional mural paintings analyzing structure and behavior of paintings. Analysis of twenty randomly selected samples of paintings belonging to classical, medieval and southern techniques disclosed following facts: (1) all painting grounds are porous (2) ground is covered by an impermeable layer of paint (3) various amounts of paints with different degrees of permeability had been used as a tool to control evaporation of moisture (4) structure of paintings facilitates proper interaction with their environment. Paintings on wood and masonry support absorb water from support and evaporate through surface layer. Paintings on rock support absorb moisture through surface layer. Amount of moisture bears effects on most physical, chemical and microbiological actions of decay. Surface movement largely depends on the absorption and evaporation of moisture by surface layer. It was therefore determined that maintenance of correct level of moisture is vital for mural paintings. The most efficient method of preservation was determined according to this necessity. Reduction of the rate of decay, i.e. rate of actions that lead to a change in chemical and/or physical properties of constituent material; prevention of degradation and loss of material; repair of defects and improvement of structural stability are the most vital needs in preservation. It was found that the dynamic physical action of water transmission could be used to control the rate of decay. Repair intervention could be done with traditional material to facilitate paintings to maintain optimal rate of water transmission. All intervention done to ground must therefore ensure continuity of ground. Fillers must have required amount of porosity while consolidants must provide adhesion without causing deformation. All intervention done on the paint layer must ensure the layer gaining required levels of permeability, porosity and hygroscopic absorption. This suggested method facilitates coordinative behavior of paintings with their environment that has been lost due to deterioration. It is possible to carry out viable intervention directly where extraneous actions like salt deposition and microbiological growth are absent. This method is inapplicable on modern paintings produced of water-repellent material. Synthetic polymers are suitable to fix and consolidate them where shielding of water is the requirement. Reasons for destruction of traditional paintings with their application were exposed in this study.

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